

ABSTRACT

It is an object of the invention to provide a wireless communication system capable of decreasing the effect of radio interference on a different wireless station using the same frequency band and preventing information from leaking to a different wireless station while ensuring the transmit quality of a wireless channel used between specific wireless stations according to a simple configuration in a quasi-static fading environment of wireless communications.

A transmit station 101 selects one optimum antenna from among antennas based on quality information of a transmission path 104 and transmits a packet to a receive station 102 from the selected antenna. The receive station 102 receives the packet from the transmit station 101 at one antenna selected from among antennas and switches the currently selected antenna to a different antenna. The receive station 102 transmits a response packet to the received packet to the transmit station 101 from the antenna to which the current antenna is switched. The transmit station 101 receives the response packet at each of the antennas, selects the antenna with the best receive quality as a packet transmit antenna, and transmits a packet to the receive station 102 from the selected antenna. Then, the processing is repeated.